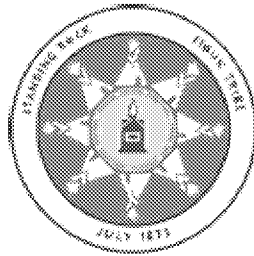


**Standing Rock Sioux Tribe**  
**Department of Water Resources**



**Tribal Water Quality Standards**  
**May 10, 2021 Draft**

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## **STANDING ROCK SIOUX TRIBE**

### **WATER RESOURCES CONTROL BOARD**

#### ***DRAFT REGULATIONS - WATER QUALITY STANDARDS***

##### **Section 1                      Purposes**

(a)     The Water Resources Control Board declares the following purposes of these Water Quality Standards:

- (1)     to exercise the inherent sovereignty of the Standing Rock Sioux Tribe;
- (2)     to prescribe minimum water quality requirements for the surface waters located within the exterior boundaries of the Standing Rock Sioux Reservation;
- (3)     to restore, maintain and protect the chemical, physical, biological, and cultural integrity of Reservation waters;
- (4)     to promote the health, social welfare, and economic well-being of the residents of the Standing Rock Sioux Indian Reservation;
- (5)     to achieve a level of water quality that provides for all ceremonial and religious uses of the water, the protection and propagation of fish and wildlife, for recreation in and on the water, and all existing and designated uses of the water;
- (5)     to promote the holistic watershed approach to management of Reservation waters of the Standing Rock Sioux Tribe; and
- (6)     to provide for the protection of threatened and endangered species and to provide necessary guidance for the protection and/or maintenance of water quality throughout Reservation waters.

(b)     These standards are designed to establish the uses for which the Reservation waters shall be protected, to prescribe water quality standards to sustain the designated uses, and to protect existing water quality.

## **Section 2                      Authority**

The Standing Rock Sioux Tribe possesses the inherent sovereign authority to protect the public health, safety, and environment on the Standing Rock Indian Reservation. In furtherance of Tribal sovereignty, the Standing Rock Sioux Tribal Council has enacted the Water Pollution Prevention Ordinance, Ordinance No. \_\_\_\_\_. These water quality standards are adopted by the Standing Rock Water Resources Control Board pursuant to section 5(c) of the Clean Water Ordinance. These water quality standards are to be used for all purposes of water quality standards under the Federal Clean Water Act (CWA) consistent with CWA § 518(e) and § 303(c). The Department of Water Resources is responsible for the administration and enforcement of these regulations under the Water Code.

## **Section 3                      Definitions**

For the purposes of this rule:

- (a) “Acute toxicity” means a deleterious response (e.g. mortality, disorientation, immobilization) to a stimulus observed in 96 hours or less.
- (b) “Applicant” means any person who applies for a license or permit from any federal or Tribal agency that may result in the discharge of any pollutant into the surface waters of the Reservation, or wetlands within the exterior boundaries of the Reservation.
- (c) “Background conditions” mean the biological, chemical and physical conditions of a water body, upstream from the point or non-point source discharge under consideration. In determining background conditions, sampling locations in an enforcement action will be upstream from the point of discharge, but not upstream from other inflows. If several discharges to any water body exist, and an enforcement action is being undertaken for possible violations of the standards, background sampling will be undertaken immediately upstream from each discharge.
- (d) “Biological criteria” or “biocriteria,” are narrative expressions or numeric values of the biological characteristics of aquatic communities based upon appropriate reference conditions. Biological criteria serve as an index of aquatic community health.
- (e) “Board” means the Standing Rock Sioux Tribe Water Resources Control Board.”
- (f) “Ceremonial and religious water use” means activities involving traditional Lakota or Dakota cultural or spiritual practices.
- (g) “Certification” means a notice issued by the Department of approval, approval with conditions or denial of an application for certification.

- (h) “Chronic toxicity” means the lowest concentration of a constituent causing observable effects (i.e. lethality, growth, reduced reproduction) over a relatively long period of time.
- (i) “Clean Water Act” means the federal Clean Water Act (also known as the Federal Water Pollution Control Act), 33 U.S.C. §§1251-1387, as amended.
- (j) “Criteria” means elements of water quality standards, expressed as a desired condition, constituent concentration, level, or narrative statement, representing a quality of water that supports a particular use. When criteria are met, water quality will generally protect the designated use.
- (k) “Criteria continuous concentration” (“CCC”) is the highest instream concentration of a toxicant or an effluent to which organisms can be exposed indefinitely without causing unacceptable effect.
- (l) “Criteria maximum concentration” (“CMC”) is the highest instream concentration of a toxicant or an effluent to which organisms can be exposed for a brief period without causing an acute effect.
- (m) “Cyanotoxins” means toxins produced by cyanobacteria. Cyanobacteria, a type of phytoplankton also known as blue-green algae, are often the cause of algal blooms in fresh water and occasionally in marine water. Their toxins can harm people, animals, aquatic ecosystems, cultural activities, drinking water supplies, recreational activities, including swimming and fishing, the economy, and property values.
- (n) “Department” means the Standing Rock Sioux Tribe Department of Water Resources, acting through the Clean Water Act section 106 Water Pollution Prevention program.
- (o) “Designated uses” means those uses specified in water quality standards for each water body segment whether or not they are being attained.
- (p) “EPA” means the U.S. Environmental Protection Agency.
- (q) “*Escherichia coli* (*E. coli*)” means that portion of the coliform bacteria group, which is present in the intestinal tract, and feces of warm-blooded animals. *E. coli* is used as a direct indicator of human or animal caused fecal contamination in water. Presence of significant levels of *E. coli* in the water has been linked to gastroenteritis in humans.
- (r) “Existing uses” means those uses actually attained in the water body on or after November 28, 1975, whether or not they are explicitly stated as designated uses in the water quality standards or presently exist.

(s) “Full contact recreation” means swimming and any other activities that potentially involve total body immersion, and/or incidental water ingestion or exposure, such as rafting, canoeing, kayaking, scuba diving, and water skiing.”

(t) “Incidental contact recreation” means wading and any other similar water recreational activities where there is a reduced likelihood of total body immersion or ingestion of water. Such activities may include fishing, hunting, and commercial and recreational boating.”

(u) “Mixing zone” means that portion of water body adjacent to a point source discharge where mixing results in the dilution of the effluent with the receiving water. Water quality numeric criteria may be exceeded in a mixing zone as conditioned and provided for in Section 12.

(v) “Near instantaneous and complete mixing” of a pollution source to a river or stream means no more than a 10% difference in bank-to-bank concentrations within a longitudinal distance not greater than two waterway widths. Such mixing generally negates the necessity for a mixing zone.

(w) “Outstanding Tribal Resource Waters” is a classification for those waters of the Reservation that are of high quality or of exceptional cultural, recreational or ecological significance.

(x) “Person” includes a natural person, corporation, partnership, business association, government agency or instrumentality and publicly-owned treatment works.

(y) “pH” means the negative logarithm of the hydrogen ion concentration.

(z) “Pollutant” means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

(aa) “Pollution” means such contamination, or other alteration of the physical, chemical or biological properties, of any waters of the Tribe, including change in temperature, taste, color, turbidity, or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the Tribe as will or is likely to create a nuisance or impair any beneficial use of such waters.

(bb) “Reservation” means all lands within the portion of the Great Sioux Reservation, defined in the Treaty of Fort Laramie of April 29, 1868 (15 Stat. 635) and lands included under the Executive Order of 1877, set aside as the Standing Rock Indian Reservation as defined in Article I of the Constitution of the Standing Rock Sioux Tribe.



(cc) “Surface water” means all water above the surface of the ground within the exterior boundaries of the Standing Rock Indian Reservation, including but not limited to rivers, streams, creeks, lakes, ponds, reservoirs artificial impoundments, springs, seeps and wetlands.

(dd) “Temperature” means water temperature expressed in Centigrade or Fahrenheit degrees.

(ee) “Total dissolved solids (TDS)” means the total filterable residue that passes through a standard glass fiber filter disk and remains after evaporation and drying to a constant weight at 180 degrees Centigrade. It is considered to be a measure of the dissolved salt content of water.

(ff) “Tribal Council” means the legislative branch of the Standing Rock Sioux Tribal government, as described in Articles III and IV of the Constitution of the Standing Rock Sioux Tribe (April 24, 1959).

(gg) “Water quality standard” means the water quality goal for a surface water body of the Reservation, or a portion thereof, by designating the use or uses of the water, by setting criteria necessary to protect the uses, and to protect the water quality through an anti-degradation plan.

(hh) “Waters of the Reservation” shall have the same meaning as in section 2(n) of the Standing Rock Sioux Tribe Water Pollution Prevention Ordinance. The term shall include all tributaries to, and all waters adjacent to or which have a nexus with a Water of the Reservation, whether intermittent, ephemeral or perennial, and recharge zones of all waters. The term shall include wetlands, ponds, lakes, oxbows, impoundments and similar waters.

(jj) “Wetlands” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and that under normal circumstances do support, a prevalence of vegetation typically adapted for saturated soil conditions.

#### **Section 4      Classifications of Waters of the Reservation**

The objective in adopting these water quality standards is to provide, wherever attainable, the highest possible water quality commensurate with the following designated uses that shall be applied to the surface waters of the Reservation:

(a) Domestic water supply – surface waters that are suitable or intended to become suitable for drinking, culinary and food processing, after conventional treatment for naturally present impurities.

- (b) Cultural – surface waters that are suitable for cultural, ceremonial and religious uses, which may include full contact with surface water.
- (c) Aquatic – surface waters that are capable of supporting natural reproduction and growth of fishes and associated aquatic biota in coldwater or warm water conditions, depending upon water temperature.
- (d) Other aquatic life – surface waters capable of propagation and growth of a variety of aquatic invertebrate biota. These are small perennial headwater streams, intermittent streams or springs which due to natural conditions do not have the potential to support fish.
- (e) Wetlands – surface waters that are suitable for maintaining aquatic biota within the natural range of variation of the wetland.
- (f) Full contact recreation – surface waters that are suitable for or intended to become suitable for recreational activities in or on the water under circumstances in which the ingestion of water may occur. Such waters include, but are not limited to, those used for bathing, swimming and ceremonial uses.
- (g) Incidental contact recreation – surface waters that are suitable or intended to become suitable for recreational activities on or about the water which are not included in the full contact category, including, but not limited to fishing, wading or streamside recreation.
- (h) Wildlife – surface waters that are suitable for all furbearers and waterfowl.
- (i) Agriculture / Livestock – surface waters that are suitable or intended to become suitable for crops customarily grown on the Reservation and for livestock.
- (j) Industrial – surface waters that are suitable for industrial processes or cooling water.

**Section 5                      Use Designations of Waters of the Reservation  
for Purposes of Water Quality Standards**

- (a) For the purpose of this section, the definition of uses prescribed in section two of this rule shall apply to the “Use” columns.

Use	Missouri R/Grand below Hwy 12	Cannon Ball R/ Cedar Cr	Porcupine Creek	4 Mile Creek	Oak Creek	Grand above Hwy12	Froehlich Dam	Morris town Lake
Domestic Water Supply	x							
Cultural	x	x	x	x	x	x		
Coldwater permanent fish life propagation	x							
Coolwater permanent fish life propagation	x						x	x
Warmwater permanent fish life propagation		x	x	x	x	x		
Other aquatic life		x	x	x	x	x		
Wetlands								
Full contact recreation	x	x	x	x	x	x	x	x
Incidental contact recreation								
Wildlife	x	x	x	x	x	x		
Agriculture/Livestock	x	x	x	x	x			
Industrial	x							

(b) If waters have more than one designated use and criteria are established for a parameter that is common to two or more uses, the more restrictive criteria for the common parameter applies.

## Section 6 Numeric Criteria for Water Classifications

(a) The following criteria shall apply be used to determine impaired waters of the Reservation:

(1) Criteria for Domestic Water Supply Waters

<b>Parameter</b>	<b>Criteria</b>
Total dissolved solids	$\leq 1,000$ mg/l (30-day average) $\leq 1,750$ mg/l (daily maximum)
Nitrates	$\leq 10$ mg/l (daily maximum)
pH	$\geq 6.9 - \leq 8.9$
Total coliform	$\leq 5,000 / 100$ ml (geometric mean of 5 daily samples during a 30-day period) $\leq 20,000 / 100$ ml (any sample)
Barium	$\leq 1.0$ mg/l
Chloride	$\leq 250$ mg/l (30-day average) 438 mg/l (daily maximum)
Fluoride	$\leq 4.0$ (daily maximum)
Sulfate	$\leq 500$ mg/l (30-day average) $\leq 875$ mg/l (daily maximum)
Total petroleum hydrocarbons	0

(2) Criteria for Cultural Use Waters

<b>Parameter</b>	<b>Criteria</b>
Dissolved oxygen	$\geq 5.0$ mg/l (daily minimum)
Fecal coliform	$\leq 200 / 100$ ml (geometric mean of 5 daily samples during a 30-day period) $\leq /100$ ml (daily average)
Escherichia coli	$\leq 126 /100$ ml (geometric mean of 5 daily samples during a 30-day period) $\leq 235 / 100$ ml (daily minimum)

## (3) Aquatic Life Criteria

A		B Freshwater		C Saltwater	
Compound	CAS Number	Criterion Maximum Concentrati on (CMC) (µg/L) B1	Criterion Continuous Concentrati on (CCC) (µg/L) B2	Criterion Maximum Concentrati on (CMC) (µg/L) C1	Criterion Continuous Concentrati on (CCC) (µg/L) C2
Acrolein	107028	3	3	-	-
Aldrin <sup>a</sup>	309002	3	-	1.3	-
Alkalinity <sup>b</sup>		-	20000	-	-
alpha-Endosulfan <sup>a,c</sup>	959988	0.22	0.056	0.034	0.0087
Aluminum pH 5.0 – 10.5	7429905	Acute (CMC) and chronic (CCC) freshwater aluminum criteria values for a site shall be calculated using the 2018 Aluminum Criteria Calculator ( <i>Aluminum Criteria Calculator V.2.0.xlsx</i> , or a calculator in R or other software package using the same 1985 Guidelines calculation approach and underlying model equations as in the <i>Aluminum Criteria Calculator V.2.0.xlsx</i> ) as established in EPA's Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018 (EPA 822-R-18-001). <i>To apply the aluminum criteria for Clean Water Act purposes, criteria values based on ambient water chemistry conditions must protect the water body over the full range of variability, including during conditions when aluminum is most toxic.</i>			
Ammonia	7664417	See Table 4			
Arsenic <sup>d,e</sup>	7440382	340	150	69	36
beta-Endosulfan <sup>a,c</sup>	33213659	0.22	0.056	0.034	0.0087
Cadmium <sup>e</sup>	7440439	See Table 1b		33	7.9
Carbaryl	63252	2.1	2.1	1.6	-
Chlordane <sup>a</sup>	57749	2.4	0.0043	0.09	0.004
Chloride	16887006	860000	230000	-	-
Chlorine	7782505	19	11	13	7.5
Chlorpyrifos	2921882	0.083	0.041	0.011	0.0056
Chromium (III) <sup>e</sup>	16065831	See Table 1b		-	-
Chromium (VI) <sup>e</sup>	18540299	16	11	1100	50
Copper <sup>e</sup>	7440508	See Table 2		Reserved <sup>f</sup>	

A		B Freshwater		C Saltwater	
Compound	CAS Number	Criterion Maximum Concentration (CMC) (µg/L) B1	Criterion Continuous Concentration (CCC) (µg/L) B2	Criterion Maximum Concentration (CMC) (µg/L) C1	Criterion Continuous Concentration (CCC) (µg/L) C2
Cyanide <sup>g</sup>	57125	22	5.2	1	1
Demeton	8065483	-	0.1	-	0.1
Diazinon	333415	0.17	0.17	0.82	0.82
Dieldrin	60571	0.24	0.056 <sup>a</sup>	0.71 <sup>a</sup>	0.0019 <sup>a</sup>
Endrin	72208	0.086	0.036 <sup>h</sup>	0.037	0.0023 <sup>h</sup>
gamma-BHC (Lindane)	58899	0.95	-	0.16 <sup>a</sup>	-
Guthion	86500	-	0.01	-	0.01
Heptachlor <sup>a</sup>	76448	0.52	0.0038	0.053	0.0036
Heptachlor Epoxide <sup>a,i</sup>	1024573	0.52	0.0038	0.053	0.0036
Iron	7439896	-	1000	-	-
Lead <sup>c</sup>	7439921	See Table 1b		140	5.6
Malathion	121755	-	0.1	-	0.1
Mercury <sup>c,j</sup>	7439976	1.4	0.77	1.8	0.94
Methoxychlor	72435	-	0.03	-	0.03
Mirex	2385855	-	0.001	-	0.001
Nickel <sup>c</sup>	7440020	See Table 1b		74	8.2
Nonylphenol	84852153	28	6.6	7	1.7
Oxygen, Dissolved <sup>k</sup>	7782447				
Parathion	56382	0.065	0.013	-	-
Pentachlorophenol	87865	19 <sup>l</sup>	15 <sup>l</sup>	13	7.9
pH <sup>m</sup>		-	6.5 – 9	-	6.5 – 8.5
Selenium	7782492	See Table 3		290	71
Silver <sup>a,e</sup>	7440224	See Table 1b		1.9	-
Sulfide-Hydrogen Sulfide	7783064	-	2	-	2
Temperature <sup>n</sup>		-	-	-	-
Toxaphene	8001352	0.73	0.0002	0.21	0.0002
Tributyltin (TBT)		0.46	0.072	0.42	0.0074
Zinc <sup>c</sup>	7440666	See Table 1b		90	81
4,4'-DDT <sup>a</sup>	50293	1.1	0.001	0.13	0.001

**Notes:**

- a. These criteria are based on the [ [HYPERLINK "https://www.epa.gov/wqc/guidelines-and-methodology-used-preparation-health-effect-assessment-chapters-consent-decree"](https://www.epa.gov/wqc/guidelines-and-methodology-used-preparation-health-effect-assessment-chapters-consent-decree) ], which used different Minimum Data Requirements and derivation procedures from the [ [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=20003KJK.txt"](http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=20003KJK.txt) ]. For example, the CMC derived using the 1980 Guidelines was derived to be used as an instantaneous maximum. If assessment is to be done using an averaging period, the values given should be divided by 2 to obtain a value that is more comparable to a CMC derived using the 1985 Guidelines.
- b. The CCC of 20mg/L is a minimum value except where alkalinity is naturally lower, in which case the alkalinity cannot be lower than 25% of the natural level.
- c. This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan.
- d. This recommended water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic.
- e. Freshwater and saltwater criteria for these metals are expressed in terms of the dissolved metal in the water column. See [ [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=60001CLZ.txt"](http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=60001CLZ.txt) ]. See Table 1a for conversion factors.
- f. Saltwater criteria for copper is reserved for new values under development. Criteria will be added once available.
- g. These recommended water quality criteria are expressed as µg free cyanide per liter.
- h. The derivation of the CCC for this pollutant did not consider exposure through the diet, which is probably important for aquatic life occupying upper trophic levels.
- i. This value was derived from data for heptachlor and there was insufficient data to determine relative toxicities of heptachlor and heptachlor epoxide.
- j. This recommended water quality criterion was derived from data for inorganic mercury (II), but is applied here to total dissolved mercury. If a substantial portion of the mercury in the water column is methylmercury, this criterion will probably be under protective. In addition, even though inorganic mercury is converted to methylmercury and methylmercury bioaccumulates to a great extent, this criterion does not account for uptake via the food chain because sufficient data were not available when the criterion was derived.
- k. See [ [HYPERLINK "http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=00001MGA.txt"](http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockkey=00001MGA.txt) ].
- l. Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH and values displayed in table correspond to a pH of 7.8.  $CCC = e^{1.005(pH) - 5.134}$ ,  $CMC = e^{1.005(pH) - 4.869}$
- m. For open ocean waters where the depth is substantially greater than the euphotic zone, the pH may not be changed more than 0.2 units from the naturally occurring variation or any case outside the range of 6.5 to 8.5. For shallow, highly productive

coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, changes in pH should be avoided but in any case should not exceed the limits established for fresh water, *i.e.*, 6.5-9.0.

n. Criteria are species dependent. See [ [HYPERLINK "http://nepis.epa.gov/Exec/ZipURL.cgi?Dockey=00001MGA.txt"](http://nepis.epa.gov/Exec/ZipURL.cgi?Dockey=00001MGA.txt) ].

(A) Copper Aquatic Life Criteria for Freshwater

Metal	CAS No.	Criterion Maximum Concentration (CMC) (µg/L) <sup>a</sup>	Criterion Continuous Concentration (CCC) (µg/L) <sup>b</sup>
Copper	7440508		Acute (CMC) and chronic (CCC) freshwater copper criteria shall be developed using EPA's 2007 <i>Aquatic Life Ambient Freshwater Quality Criteria—Copper</i> (EPA-822-R-07-001), which incorporates use of the copper biotic ligand model (BLM). Where sufficiently representative ambient data for DOC, calcium, magnesium, sodium, potassium, sulfate, chloride, or alkalinity are not available, the Tribe shall use the 10 <sup>th</sup> percentile values from publicly available peer-reviewed datasets such as the US Geological Survey National Waters Information System (NWIS) and EPA's Storage and Retrieval Data Warehouse.
<sup>a</sup> The CMC is the highest allowable one-hour average instream concentration of copper. The CMC is not to be exceeded more than once every three years. <sup>b</sup> The CCC is the highest allowable four-day average instream concentration of copper. The CCC is not to be exceeded more than once every three years.			



(B) Selenium Aquatic Life Criteria for Freshwater

Criterion Element	Magnitude	Duration	Frequency
Fish Tissue <sup>a</sup> (Egg-Ovary) <sup>b</sup>	15.1 mg/kg dw	Instantaneous measurement <sup>c</sup>	Not to be exceeded
Fish Tissue <sup>a</sup> (Whole Body or Muscle) <sup>d</sup>	8.5 mg/kg dw or 11.3 mg/kg dw muscle (skinless, boneless filet)	Instantaneous measurement <sup>c</sup>	Not to be exceeded
Water Column <sup>e</sup> (Monthly Average Exposure)	1.5 µg/L in lentic aquatic systems  3.1 µg/L in lotic aquatic systems	30 days	Not more than once in three years on average
Water Column <sup>e</sup> (Intermittent Exposure) <sup>f</sup>	$WQC_{int} = \frac{WQC_{30-day} - C_{bkgrnd}(1 - f_{int})}{f_{int}}$	Number of days/month with an elevated concentration	Not more than once in three years on average

<sup>a</sup> Fish tissue elements are expressed as steady-state.

<sup>b</sup> Egg/ovary supersedes any whole-body, muscle, or water column element when fish egg/ovary concentrations are measured.

<sup>c</sup> Fish tissue data provide point measurements that reflect integrative accumulation of selenium over time and space in fish population(s) at a given site.

<sup>d</sup> Fish whole-body or muscle tissue supersedes water column element when both fish tissue and water concentrations are measured.

<sup>e</sup> Water column values are based on dissolved total selenium in water and are derived from fish tissue values via bioaccumulation modeling. Water column values are the applicable criterion element in the absence of steady-state condition fish tissue data.

<sup>f</sup> Where  $WQC_{30-day}$  is the water column monthly element, for either a lentic or lotic waters;  $C_{bkgrnd}$  is the average background selenium concentration, and  $f_{int}$  is the fraction of any 30-day period during which elevated selenium concentrations occur, with  $f_{int}$  assigned a value  $\geq 0.033$  (corresponding to 1 day).

## (C) Ammonium Aquatic Life Criteria for Freshwater

mg Total Ammonia Nitrogen (TAN)/L	
Acute (CMC) equation (1 hour average)	$CMC = MIN \left( \left( \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}} \right), \left( 0.7249 \times \left( \frac{0.0114}{1 + 10^{7.204 - pH}} + \frac{1.6181}{1 + 10^{pH - 7.204}} \right) \times (23.12 \times 10^{0.036 \times (20 - T)}) \right) \right)$
Chronic (CCC) equation (30-day rolling average)*	$CCC = 0.8876 \times \left( \frac{0.0278}{1 + 10^{7.688 - pH}} + \frac{1.1994}{1 + 10^{pH - 7.688}} \right) \times (2.126 \times 10^{0.028 \times (20 - MAX(T, 7))})$
<p>Note: Ammonia criteria are a function of pH and temperature. At the standard normalized pH of 7.0 and temperature of 20 °C, the acute criterion would be 17 mg TAN/L and the chronic criterion would be 1.9 mg TAN/L. Criteria duration: the acute criterion is a one-hour average and the chronic criterion is a thirty-day rolling average. Criteria frequency: Not to be exceeded more than once in 3 years.</p> <p>* Not to exceed 2.5 times the CCC as a 4-day average within the 30-days, <i>i.e.</i> 4.8 mg TAN/L at pH 7 and 20 °C. more than once in 3 years on average.</p>	

Note: Acute (CMC) and chronic (CCC) freshwater ammonia criteria were developed using EPA's 2013 *Aquatic Life Ambient Water Quality Criteria for Ammonia - Freshwater* (EPA-822-R-13-001), which is hereby incorporated by reference. Illustrations, tables, and formulae used in the development of these equations can be found on pages 40-52 of the criteria document. Alternative equations for the presence or absence of *Oncorhynchus sp.* (rainbow trout) can be found on pages 41-42 of the document.

## (D) Aquatic Aluminum and Cadmium Criteria

Parameter	CAS Number	Acute (ug/L)	Chronic (ug/L)
Aluminum <sup>1</sup> pH 5.0 - 10.5	7429905	1-4,800 *	0.63-3,200 **
Cadmium <sup>2</sup>	7440439	1.8	0.72

\*Freshwater acute (1-hour, total recoverable aluminum). The criteria vary as a function of a site's pH, total hardness and dissolved organic carbon. Values are recommended not to be exceeded more than once every three years on average. Values will be different under differing water chemistry conditions.

<sup>1</sup> See [ HYPERLINK "<https://www.epa.gov/sites/production/files/2018-12/documents/aluminum-final-national-recommended-awqc.pdf>" ]. 83 Fed. Reg. 65663-65665, December 21, 2018.

<sup>2</sup> See [ HYPERLINK "<https://www.epa.gov/sites/production/files/2016-03/documents/cadmium-final-factsheet.pdf>" ]. 81 Fed. Reg. 19176-78, April 4, 2016.

\*\* Freshwater chronic (4-day, total recoverable aluminum). The criteria vary as a function of a site's pH, total hardness and dissolved organic carbon. Values are recommended not to be exceeded more than once every three years on average. Values will be different under differing water chemistry conditions.

(E) Aquatic Life Criterion for Selenium in Freshwater

<b>Egg-Ovary<sup>1</sup></b> [mg/kg dw]	<b>Chronic</b>				<b>Short-term</b>
	<b>Whole Body<sup>1</sup></b> [mg/kg dw]	<b>Muscle<sup>1</sup></b> [mg/kg dw]	<b>Water Lentic<sup>1</sup></b> [ug/L]	<b>Water Lotic<sup>1</sup></b> [ug/L]	<b>Water<sup>1</sup></b> [ug/L]
15.1	8.5	11.3	1.5 (30 day)	3.1 (30 day)	Intermittent exposure equation

<sup>1</sup>A note on hierarchy of table: when fish egg/ovary concentrations are measured, the values supersede any whole-body, muscle or water column elements except in certain situations. Whole body or muscle measurements supersede any water column element when both fish tissue and water concentrations are measured, except in certain situations. Water column values are derived from the egg & ovary concentrations via bioaccumulation modeling. Water column values are the applicable criterion element in the absence of fish tissue measurements, such as waters where fish have been extirpated or where physical habitat and/or flow regime cannot sustain fish populations, or in waters with new discharges of selenium where steady state has not been achieved between water and fish tissue at the site.

(F) BLM Model

The Department shall utilize or require, as deemed necessary, the Biotic Ligand Model (BLM) for evaluating copper toxicity for aquatic life. The available toxicity data, when evaluated using the procedures described in the "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses," indicate that freshwater aquatic life should be protected if the 24-hour average and four-day average concentrations do not, respectively, exceed the acute and chronic criteria concentrations calculated by the BLM. The Department may require the copper BLM of any dischargers that have reasonable potential to exceed their NPDES copper limits.

(4) Criteria for Wetlands

Parameter	Criteria
Sodium Absorption Ratio (SAR)	$\leq 2.0$
pH	$\geq 6.9 - \leq 8.9$

(5) Criteria for Recreation

Indicator	Estimated Illness Rate: 32 per 1,000 primary contact recreators		Estimated Illness Rate: 36 per 1,000 primary contact recreators	
	Magnitude		Magnitude	
	GM (cfu/100 mL) <sup>a</sup>	STV (cfu/100 mL)	GM (cfu/100 mL) <sup>a</sup>	STV (cfu/100 mL)
Enterococci (marine and fresh water)	30	110	35	130
<i>E. coli</i> (fresh water)	100	320	126	410
<sup>a</sup> EPA Method 1600, or another equivalent method, shall be used to measure culturable enterococci. EPA Method 1603 (U.S. EPA, 2002b), or another equivalent method, shall be used to measure <i>E. coli</i> .				
Total petroleum hydrocarbons	0		0	

A. Cyanotoxins

Microcystins	Cylindrospermopsin
8 ug/L	15 ug/L

(6) Criteria for Wildlife

Parameter	Criteria
Total alkalinity as calcium carbonate	$\leq 750$ mg/l (30-day average) $\leq 1,313$ mg/l (daily maximum)
Total dissolved solids	$\leq 2,500$ mg/l (30-day average) $\leq 4,375$ mg/l (daily maximum)
Conductivity @ 25° C (77° F)	$\leq 4,000$ micromhos/cm (30-day average) $\leq 7,000$ micromhos/cm (daily maximum)
Nitrates	$\leq 50$ mg/l (30-day average) $\leq 80$ mg/l (daily maximum)
pH	$\geq 6.9 - \leq 9.0$
Total petroleum hydrocarbons	0
Oil and grease	0

(7) Criteria for Agriculture

Parameter	Criteria
Conductivity @ 25° C (77° F)	≤ 2,500 micromhos/cm (30-day average) ≤ 4,375 micromhos/cm (daily maximum)
Sodium Absorption Ratio (SAR)	≤ 10
Total alkalinity as calcium carbonate	≤ 750 mg/l (30-day average) ≤ 1,313 mg/l (daily maximum)
Total dissolved solids	≤ 2,500 mg/l (30-day average) ≤ 4,375 mg/l (daily maximum)
Conductivity @ 25° C	≤ 4,000 microhmhos/cm (30-day average) ≤ 7,000 microhmhos/cm (daily maximum)
Nitrates	≤ 50 mg/l (30-day average) ≤ 80 mg/l (daily maximum)
pH	≥ 6.9 - ≤ 9.0 units
Total petroleum hydrocarbons	0
Oil and grease	0

(8) Criteria for Industrial Waters

Parameter	Criteria
Total dissolved solids	≤ 3,000 mg/l (30-day average) ≤ 3,500 mg/l (daily maximum)
pH	6.9 – 9.0

(b) Multiple Designated Uses

If waters have more than one designated use and criteria are established for a parameter is common to two or more uses, the more restrictive criteria for the common parameter shall apply.

## Section 7      Numeric Water Quality Standards for Toxic Pollutants

For the purpose of this section, the definition of uses prescribed in section two of this rule shall apply to the “Use” columns.

Parameter	CAS Number	Water & Organisms (ug/L)	Organisms Only (ug/L)
Acenaphthene	83329	70	90
Acrolein	107028	3	400
Acrylonitrile	107131	0.061	7.0
Aldrin	309002	0.00000077	0.00000077
alpha-Hexachlorocyclohexane	319846	0.00036	0.00039
alpha-Endosulfan	959988	20	30
Anthracene (PAH)	120127	300	400
Benzene	71432	0.58-2.1	16-58
Benzidine	92875	0.00014	0.011
Benzo(a)anthracene	56553	0.0012	0.0013
Benzo(a)pyrene	50328	0.00012	0.00013
Benzo(b)fluoranthene	205992	0.0012	0.0013
Benzo(k)fluoranthene	207089	0.012	0.013
beta-Hexachlorocyclohexane (HCH)	319857	0.0080	0.014
beta-Endosulfan	33213659	20	40
Bis(2-Chloro-1-methylethyl) Ether	108601	200	4000
Bis(2-Chloroethyl) Ether	111444	0.030	2.2
Bis(2-Ethylhexyl) Phthalate	117817	0.32	0.37
Bis(Chloromethyl) Ether	542881	0.00015	0.017
Bromoform	75252	7.0	120
Butylbenzyl Phthalate	85687	0.10	0.10
Carbon Tetrachloride	56235	0.4	5
Chlordane	57749	0.00031	0.00032
Chlorobenzene	108907	100	800
Chlorodibromomethane	124481	0.80	21
Chloroform	67663	60	2,000
Chlorophenoxy Herbicide (2,4-D)	94757	1,300	12,000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex])	93721	100	400
Chrysene	218019	0.12	0.13
Cyanide	57125	4	400
Dibenzo(a,h)anthracene	53703	0.00012	0.00013
Dichlorobromomethane	75274	0.95	27
Dieldrin	60571	0.0000012	0.0000012

Diethyl Phthalate	84662	600	600
Dimethyl Phthalate	131113	2,000	2,000
Di-n-Butyl Phthalate	84742	20	30
Dinitrophenols	25550587	10	1,000
Endosulfan Sulfate	1031078	20	40
Endrin	72208	0.03	0.03
Endrin Aldehyde	7421934	1	1
Ethylbenzene	100414	68	130
Fluoranthene	206440	20	20
Fluorene	86737	50	70
gamma-Hexachlorocyclohexane (HCH) [Lindane]	58899	4.2	4.4
Heptachlor	76448	0.0000059	0.0000059
Heptachlor Epoxide	1024573	0.000032	0.000032
Hexachlorobenzene	118741	0.000079	0.000079
Hexachlorobutadiene	87683	0.01	0.01
Hexachlorocyclohexane (HCH)-Technical	608731	0.0066	0.010
Hexachlorocyclopentadiene	77474	4	4
Hexachloroethane	67721	0.1	0.1
Indeno(1,2,3-cd)pyrene	193395	0.0012	0.0013
Isophorone	78591	34	1,800
Methoxychlor	72435	0.02	0.02
Methyl Bromide	74839	100	10,000
Methylene Chloride	75092	20	1,000
Nitrobenzene	98953	10	600
Pentachlorobenzene	608935	0.1	0.1
Pentachlorophenol	87865	0.03	0.04
Phenol	108952	4,000	300,000
Tetrachloroethylene	127184	10	29
Toluene	108883	57	520
Toxaphene	8001352	0.00070	0.00071
Trichloroethylene	79016	0.6	7
Vinyl Chloride	75014	0.022	1.6
1,1,1-Trichloroethane	71556	10,000	200,000
1,1,2,2-Tetrachloroethane	79345	0.2	3
1,1,2-Trichloroethane	79005	0.55	8.9
1,1-Dichloroethylene	75354	300	20,000
1,2,4,5-Tetrachlorobenzene	95943	0.03	0.03
1,2,4-Trichlorobenzene	120821	0.071	0.076
1,2-Dichlorobenzene	95501	1,000	3,000
1,2-Dichloroethane	107062	9.9	650
1,2-Dichloropropane	78875	0.90	31
1,2-Diphenylhydrazine	122667	0.03	0.2
Trans-1,2-Dichloroethylene	156605	100	4,000

1,3-Dichlorobenzene	541731	7	10
1,3-Dichloropropene	542756	0.27	12
1,4-Dichlorobenzene	106467	300	900
2,3,7,8-TCDD (Dioxin)	1746016	5.0E-9	5.1E-9
2,4,5-Trichlorophenol	95954	300	600
2,4,6-Trichlorophenol	88062	1.5	2.8
2,4-Dichlorophenol	120832	10	60
2,4-Dimethylphenol	105679	100	3,000
2,4-Dinitrophenol	51285	10	300
2,4-Dinitrotoluene	121142	0.049	1.7
2-Chloronaphthalene	91587	800	1,000
2-Chlorophenol	95578	30	800
2-Methyl-4,6-Dinitrophenol	534521	2	30
3,3'-Dichlorobenzidine	91941	0.049	0.15
3-Methyl-4-Chlorophenol	59507	500	2,000
p,p'- Dichlorodiphenyldichloroethane (DDD)	72548	0.00012	0.00012
p,p'- Dichlorodiphenyldichloroethylene (DDE)	72559	0.000018	0.000018
p,p'- Dichlorodiphenyltrichloroethane (DDT)	50293	0.000030	0.000030

Priority pollutants are based upon EPA categories and include parameters determined to be toxic (toxin), carcinogenic (carcinogen) or harmful. Carcinogens are classified by EPA for an oral route of exposure. Standards are based upon the incremental risk of causing one additional instance of cancer. Harmful parameters include nutrients, biological agents and those parameters that cause taste, odor or physical effects.



## **Section 8      Numeric Water Quality Standards for Radionuclides**

The average dissolved concentrations of naturally-occurring or background concentration of radionuclides shall not exceed the following:

<b>Parameter</b>	<b>Numeric Standard</b>
Iodine-131	5 pCi/l (1-year average, no single sample may exceed 15 pCi/l)
Radium-226	5 pCi/l (1-year average, no single sample may exceed 15 pCi/l)
Strontium-89	100 pCi/l (1-year average, no single sample may exceed 300 pCi/l)
Strontium-90	10 pCi/l (1-year average, no single sample may exceed 30 pCi/l)
Tritium	300 pCi/l (1-year average, no single sample may exceed 800 pCi/l)

**Section 9      Aquatic Life Standards for Ammonia**

All standards are expressed as total ammonia as N.

(a)      pH-Dependent values for Acute Criteria (mg N/l)

<b>pH</b>	<b>Salmonids present</b>	<b>Salmonids not present</b>
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

(b) Temperature and pH-Dependent Values for Chronic Criteria for Fish  
Early-life Stage Habitat (mg N/l)

Temperature Degrees C										
pH	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.48
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.32	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

(c) Temperature and pH-Dependent Values for Chronic Criteria for Fish  
Early-life Stage Not Present

Temperature Degrees C										
pH	0-7	8	9	10	11	12	13	14	15	16
6.5	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46	6.06
6.6	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
6.7	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
6.8	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
6.9	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
7.0	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
7.1	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
7.2	8.75	8.29	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
7.3	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.4	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.5	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
7.6	6.46	6.05	5.67	5.32	5.02	4.68	4.38	4.11	3.85	3.61
0.	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
7.8	5.17	4.84	4.54	4.26	4.00	3.74	3.51	3.29	3.09	2.89
7.9	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
8.0	3.95	3.70	3.47	3.26	3.05	2.88	2.68	2.52	2.36	2.21
8.1	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
8.2	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
8.3	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
8.4	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
8.5	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990
8.6	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
8.7	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
8.8	1.07	1.01	0.944	0.885	0.825	0.778	0.729	0.684	0.641	0.601
8.9	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
9.0	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

## Section 10 Testing and Analysis

Tests or analytical procedures to determine conformity with criteria shall be made in accordance with methods approved or references listed in 40 CFR §141.3 and 40 C.F.R. Part 136.

## **Section 11      Narrative Water Quality Standards**

In addition to the other requirements of these Tribal water quality standards, the following Narrative Criteria apply to all waters of the Standing Rock Indian Reservation:

(a)      Prohibited Activities

- (1)      The discharge into the surface waters of the Reservation of raw or treated sewage, garbage, rubble, unpermitted fill material, municipal wastes, industrial waste, solid waste or agricultural waste which produce floating solids, oil slick, material discoloration of water, sludge, algae blooms, fungus growth or other offensive effects is prohibited.
- (2)      The discharge into the surface waters of the Reservation of materials which will cause undesirable odors or taste is prohibited.

(b)      Protection of Human, Plant, Animal and Aquatic Life

The surface waters of the Reservation shall be free from substances, whether attributable to point-source discharges or non-point source activities, in concentrations or combinations which will adversely impact the structure and function of indigenous or intentionally-introduced aquatic communities. Pollutants shall not be present in concentrations that cause or may contribute to an adverse effect to human, plant, animal or aquatic life, or in quantities that may interfere with the normal propagation, growth and survival of indigenous aquatic biota.

(c)      pH

The discharge into the surface waters of the Reservation of materials which affect the pH of the waters by .5 pH unit is prohibited.

(d)      Unregulated Parameters

Materials not constituting a regulated parameter but whose interaction with the waters of the Reservation causes the existence of a regulated parameter are considered pollutants, and may not be discharged into the waters of the Reservation if such discharge shall result in exceedance of the numeric criteria for the designated use or a numeric water quality standard, or cause impairment to an aquatic community.

(e)      Wetlands

The biological and physical characteristics naturally present in wetlands shall be protected. There shall be no discharge or fill of any materials into wetlands of the Reservation if it is determined to have significant adverse effects on:

- (1) the chemical, nutrient or dissolved oxygen regime of the wetland;
- (2) the movement of aquatic flora or fauna;
- (3) the pH of the wetland;
- (4) existing habitats and populations of wetlands animals and vegetation;
- (5) prevention of conditions conducive to the establishment or proliferation of nuisance organisms; or
- (6) plants identified as culturally-significant to the Lakota and Dakota by the Department.

(f) Missouri River and Grand River Arm Total Dissolved Gas Pressure

No discharge of any material into the Missouri River or the Grand River below U.S. Highway 12 may cause the total dissolved gas pressure to exceed 110 percent of the saturation value.

(g) Water Temperature for Fish Life Propagation

There may be no induced temperature change to waters used as fish spawning beds. No discharge may affect the temperature of fish life propagation waters of 4 degrees F.

(h) Elevation of Missouri River

For the propagation of coldwater fish, the elevation of the Missouri River within the exterior boundaries of the Reservation shall not decline to a level lower than 1610 msl.

(i) Grand River Flow

The minimum flow required in the Grand River shall be 22 cubic feet per second (cfs) when entering the Reservation 25 cfs at Little Eagle.

(j) Cannon Ball River Flow

The minimum flow required for the Cannon Ball River shall be 10 cfs at Breien.

(k) Oak Creek flow

The minimum flow required for Oak Creek shall be 1 cubic foot per second at Wakpala.

(l) Porcupine Creek Flow

The minimum flow required for Porcupine Creek shall be 2.3 cfs at N.D. Hwy. 24.

**Section 12 Outstanding Tribal Resource Waters**

(a) Designation

Surface waters of the Reservation that are of high quality or of exceptional cultural, recreational or ecological significance, may be designated by the Board, upon the recommendation of the Department, or any person, as an Outstanding Tribal Resource Water. The Board shall hold one or more public meetings on a proposed designation of an Outstanding Tribal Resource Water. The factors to be considered in designating an Outstanding Tribal Resource Water include but are not limited to:

- (1) existing water quality;
- (2) previous special designations (e.g. wild and scenic river);
- (3) ecological value;
- (4) presence of culturally-important plants in wetland area;
- (5) presence of sacred sites in wetland area and cultural uses of water;
- (6) recreational or aesthetic value; or
- (7) other factors that indicate an outstanding ecological, cultural or recreation value (e.g. critical habitat).

(b) Petitions

Any person may petition the Board to designate a specific Reservation water to be assigned as an Outstanding Tribal Resource Water. The Board shall make the final decision on a designation of an Outstanding Tribal Resource Water.

(c) Maintenance of List

The Department will maintain a comprehensive list of the Reservation waters that have been assigned as an Outstanding Tribal Resource Water.

### **Section 13     Anti-degradation Policy and Review Process**

(a)     Anti-degradation Review Process

The Department shall undertake the anti-degradation review process prescribed in this section prior to the issuance of any discharge permit, or any other activity that may affect or impair water quality. This anti-degradation process is designed to preserve and maintain water quality. The review process shall:

- (1)     Include one or more public meetings; and
- (2)     Consult with the EPA or neighboring jurisdictions, as deemed appropriate.

(b)     Outstanding Tribal Resource Water

Any proposed discharge or other activity that may diminish water quality for a water of the Reservation that has been designated as an Outstanding Tribal Resource Waters is prohibited. This prohibition applies to:

- (1)     New sources;
- (2)     Expansion of existing sources in which treatment levels are maintained;
- (3)     Expansion of existing sources in which treatment levels are increased to maintain existing pollutant loading levels;
- (4)     Sources upstream from a segment designated as an Outstanding Tribal Resource Water, whose proposed discharge would affect the quality of the Outstanding Tribal Resource Water. In determining whether the proposed upstream discharge would affect the quality of an Outstanding Tribal Resource Water, the Department shall consider:
  - (A)     percent change in ambient concentrations predicted at the appropriate critical conditions;
  - (B)     percent change in total existing loading;
  - (C)     percent reduction in available assimilative capacity;
  - (D)     nature, persistence and potential effects of the respective parameter;
  - (E)     potential for cumulative effects; and
  - (F)     degree of confidence in any modeling that is utilized; and



- (5) Temporary sources, except the Department may grant an exemption for temporary sources or limited effects to an Outstanding Tribal Resource Water, taking into account:
  - (A) length of time;
  - (B) percent change in ambient concentrations predicted at the appropriate critical conditions;
  - (C) parameters affected;
  - (D) likelihood of any long-term water quality benefits to the segment;
  - (E) impact to applicable water quality standard; and
  - (F) potential for any long-term residual impact to existing uses.

(c) Waters that Meet or Exceed Criteria

The water quality of those waters of the Reservation that meet or exceed the criteria and standards prescribed for the applicable designated use shall be maintained and protected. Significant degradation may be determined based upon one or more of the following factors:

- (1) percent change in ambient concentrations predicted at the appropriate critical conditions;
- (2) the difference, if any, between existing ambient quality and ambient quality that would exist if all point sources were discharging at permitted loading rates;
- (3) percent change in loading;
- (4) percent reduction in available assimilative capacity;
- (5) nature, persistence and potential effects of the respective parameter;
- (6) potential for cumulative effects;
- (7) predicted impacts to aquatic biota;
- (8) degree of confidence in any modeling that is utilized; and
- (9) the difference, if any, between permitted and existing effluent quality.

(d) Significant Degradation - Factors

The Department may make determinations of significant degradation based upon appropriate modeling techniques utilizing existing baseline and background water quality data. Factors indicating the likelihood that a proposed activity will pose significant degradation shall include, but not be limited to, the following:

- (1) Percent change in ambient concentrations;
- (2) The difference, if any, between existing ambient water quality and ambient water quality that would exist if all point sources were discharging at permitted loading rates;
- (3) Percent change in loading;
- (4) Percent reduction in available assimilative capacity;
- (5) Nature, persistence and potential effects of the parameter at issue;
- (6) Potential for cumulative effects;
- (7) Predicted impacts to aquatic biota;
- (8) Degree of confidence in any modeling techniques utilized; or
- (9) The difference, if any, between permitted and existing effluent quality.

(e) Presumption of Significant Degradation

The Board may presume that a proposed activity will significantly degrade water quality where:

- (1) it would lower the ambient quality of any parameter by five percent (5%) or more;
- (2) it would reduce the available assimilative capacity by five percent (5%) or more;
- (3) it would increase pollutant loading by five percent (5%) or more; or
- (4) the cumulative degradation in ambient water quality or assimilative capacity from all sources, including the proposed activity, for any parameter is ten percent (10%) or more; or if the cumulative pollutant loading of all sources, including the proposed activity, for any parameter is ten percent (10%) or more.

(f) Presumption of Insignificant Impact

The Board may presume that a proposed activity may be determined to pose insignificant impact where:

- (1) available dilution exceeds 100:1;
- (2) there is no significant increase in loading for any parameter; and
- (3) there is substantial potential for the proposed activity to result in net water quality benefit.

(g) Non-degrading or Less-degrading Alternatives

A proposed activity that significantly affects the waters of the Reservation which meet or exceed the criteria and standards prescribed for the applicable designated use shall require consideration of non-degrading or less-degrading alternatives. The applicant of such proposed activity must prepare an evaluation of alternatives. The Department will evaluate any alternative analysis submitted by applicant. The evaluation is required, at a minimum, to address the costs and environmental impact associated with:

- (1) pollution prevention measures;
- (2) reduction in scale of the project;
- (3) water recycle or reuse;
- (4) process changes;
- (5) innovative treatment technology;
- (6) advanced treatment technology;
- (7) seasonal or controlled discharge option to avoid critical water quality periods;
- (8) improved operation and maintenance of existing treatment systems; and
- (9) alternative discharge locations.

(h) Duties of Department and Board

If an analysis of alternatives in compliance with this section was completed and submitted by the applicant as part of the initial application, no further evaluation of alternatives will be required of the applicant. If such an alternatives analysis was not submitted by the applicant, the Department will develop an alternatives analysis in compliance with this section. The Board shall conduct one or more public meetings on the alternatives analysis, in the District or Districts affected by the proposed activity. Once the Department determines that feasible alternatives to allowing the degradation have been adequately evaluated, the Department shall make a preliminary recommendation to the Board regarding the availability of feasible alternatives with less degradation. The Board shall make a final decision on the proposed activity, in accordance with the requirements of this section.

(i) Protection of Existing Uses

The Board shall protect and maintain existing water uses, including instream uses, and the level of water quality necessary to protect the existing uses. Prior to authorizing any proposed activity, the Board shall ensure that water quality sufficient to protect existing uses will be maintained if the proposed activity is approved.

(j) Confirmation that Designated Uses Protect Existing Uses

The Department shall identify waters that currently support, or have supported since November 28, 1975, an existing use that has more stringent water quality requirements than uses designated in section 5 of this Rule. The Department may, as deemed appropriate, recommend to the Board that a different use designation be promulgated for a waterbody, based upon its findings under this section. When the Director determines that a waterbody's existing use requires a higher level of water quality than the use designation, the Department shall identify the level of water quality necessary to protect the uses fully for the parameters in question. The Department shall document and keep on file the information compiled under this section, for use in the implementation of this anti-degradation policy.

(k) Protection of Fish and Wildlife and Recreation Uses

Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish and wildlife and full contact recreation in and on the water, that quality shall be maintained and protected unless the Board finds that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality:

- (1) The Board shall conduct a public hearing in the district in which the proposed discharge is located, and in any other district that may be

affected by the proposed discharge, and accept the comments of any interested person; and

- (2) An applicant for a permit or person seeking to engage in activities affecting water quality shall provide an analysis of a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity, and no permit shall be issued or activity allowed whenever there is a feasible alternative with less impact on water quality; and
- (3) The Department shall assure water quality adequate to protect existing uses fully.

(l) Waters Not Meeting Criteria for Designated Use

Waters of the Reservation that do not meet the criteria and standards for the designated use shall be improved as is feasible to meet the criteria and standards. No further reduction of water quality may be allowed for waters of the Reservation that do not meet the water quality criteria and standards for the designated use.

(m) Requirements

The Department shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(n) Thermal Discharges

In those cases where the potential for water quality impairment is associated with a thermal discharge, the anti-degradation water quality review shall be conducted in accordance with section 316 of the Clean Water Act.

(o) Mitigation

An applicant for section 401 certification or other person seeking to engage in an activity that may affect water quality on the Reservation shall submit a proposal to mitigate the adverse effects of the proposed activity. Such mitigation plans will be developed and implemented by the applicant as a means to further minimize the environmental effects of the proposed activity for approval of an application notwithstanding the requirements of this section. Mitigation plans should include but not be limited to:

- (1) A binding commitment to implement mitigation measures prior to any water quality degradation;
- (2) Criteria for determining the success of mitigation; and

- (3) A binding commitment for on-going monitoring or mitigation measures, if necessary.

## **Section 14 Mixing Zones**

### **(a) Wastewater**

A zone of mixing is allowed for the discharge of wastewater into flowing surface water. Each properly-treated wastewater discharge to a flowing water must meet the chronic criteria established for the designated uses of the receiving water at the edge of its zone of mixing. Concentration of substances in the discharge must not cause the acute criteria established for the designated uses to be exceeded. No mixing zone may be granted, if approval of the mixing zone or dilution allowance will threaten or impair existing uses.

### **(b) Prohibitions**

All mixing zones shall be free from substances that:

- (1) settle to form objectionable objects;
- (2) float as debris, oil, foamy substances or other matter;
- (3) produce objectionable color, odor, taste or turbidity;
- (4) are acutely toxic; or
- (5) produce undesirable or nuisance aquatic life.

### **(c) Requirements for Effluent**

No effluent discharges shall be permitted:

- (1) above the critical flow water-surface elevation of the receiving water; or
- (2) for chemical parameters which have the potential to persist or bioaccumulate in the aquatic environment.

### **(d) Lakes and Outstanding Tribal Resource Waters**

No mixing zone or dilution allowance is allowed for any lake or Outstanding Tribal Resource Water. Mixing zones shall not be authorized where they may cause unreasonable interference with, or danger to, designated uses, including, but not limited to, any of the following:

- (1) Impairment to the integrity of the aquatic community, including interference with successful spawning, egg incubation, rearing or passage of aquatic life;
  - (2) Lethality to aquatic life passing through the mixing zone;
  - (3) Heat in the discharge that may cause thermal shock, lethality or loss of cold water habitat, or may attract aquatic life to a toxic discharge;
  - (4) Bioaccumulative pollutants in the discharge;
  - (5) Pollutant concentrations that exceed maximum contaminant levels at drinking water intakes; or
  - (6) Conditions that inhibit or impede recreation in or on the water body.
- (e) Review and Revision

Data utilized to configure mixing zones shall be subject to review and revision as information related to the permitted discharge becomes available.

## **Section 15 Non-point Source Control [reserved]**

## **Section 16 401 Certification**

### **(a) Certification**

Section 401 of the Clean Water Act requires that applicants for a federal license or permit relating to any activity which may result in any discharge in any navigable waters (i.e. waters of the United States) that shall retain certification from EPA or the Board that such discharge shall comply with the applicable provisions of sections 301-303 and 306-307 of the Clean Water Act. The purpose of this regulation is to establish procedures for the application, public notice and hearing for an application for certification required in section 401 of the Clean Water Act.

### **(b) Prohibition**

No discharge of pollutants or construction of any facility which may precipitate a discharge of pollutants into the surface waters of the Reservation, including wetlands, may commence without first obtaining written certification of such discharge pursuant to this section.

### **(c) Application**

An application for certification may be made upon a form supplied by the Department or in any manner that adequately and accurately describes:

- (1) The applicant's name and address;
  - (2) The proposed point source or activity;
  - (3) The volume, and biological, chemical, physical and radiological characteristics of the proposed discharge;
  - (4) The existing environmental conditions at the site of the proposed discharge;
  - (5) The location or locations at which the proposed discharge would enter the waters of the Reservation;
  - (6) Any environmental assessment, information, maps, or photographs provided to any agency;
  - (7) The date or dates of the proposed activity's commencement and termination;
  - (8) The methods proposed to monitor the composition and characteristics of the discharge and operation of the facility; and
  - (9) The functions and operation of the activity and any practices proposed to minimize or treat pollutants or other effluent that may be discharged into the waters of the Reservation.
- (d) Effect of Federal Certification

In cases where a Clean Water Act section 402 permit application has been made to EPA or a Clean Water Act section 404 permit application has been made to the Army Corps of Engineers, an applicant may submit a complete copy of that application to the Department; provided, however, that the Department may request additional information as deemed reasonably necessary.

(e) Duties of Department

Upon receipt of an application for certification, the Department shall make a record of the date of its receipt. If upon examination the application is found to be defective or incomplete, it will be returned promptly to the applicant for correction or completion, and the date and reasons for the return shall be marked on a copy of the application and made of record in the Department's files. The applicant shall be notified of the deficiencies by certified mail within 45 days of receipt by the Department of the



application. The applicant shall have 30 days from receipt of notification of the incomplete application to supply complete information. If no response or an inadequate response is received by the Department, the application shall be deemed to have been withdrawn by the applicant. No untimely response shall be considered by the Department, although an applicant may reapply for certification at any time.

(f) Public Notice

The Department shall provide public notice of an application for certification, by posting it conspicuously in the Tribal Administration Building and in the office of each local district council, and by mailing the application to individuals or organizations that have expressed an interest in the quality of the waters of the Reservation. The applicant shall cause the application to be published in the Teton Times and McLaughlin Messenger, and provide proof of the publication to the Department. The Board shall conduct a public hearing in the district in which the proposed discharge is located, and in any other district that may be affected by the proposed discharge, and accept the comments of any interested person.

(g) Time Frames

Within 45 days of submission of a complete application and supporting scientific and technical information to the Board, the Board may either grant, deny or grant with conditions the application for 401 certification. The response from the Department may be extended by additional 30 days for good cause.

(h) Additional Information

Notwithstanding the timelines prescribed in this section, if the Department accepts the application and later determines that additional information is required before a certification decision may be made, such information may be required at a later date without rejecting the application. Upon a determination by Department that the additional information renders an application for certification to be complete, the Department may grant, deny or grant with conditions the application.

(i) Decision by Board

A certification, certification with conditions, or denial of certification shall be approved by a majority of Board members voting at a meeting duly called in which a quorum is present. Written notice shall be provided by the Board to the applicant by certified mail within five working days, assigned a docket number and retained in the Department's records. The Board shall issue a statement of reasons for a denial of certification in a notice provided under this section.

**Section 15                      Triannual Review**

The Department shall, from time to time, but at least once every three years, hold public hearings for the purpose of reviewing applicable water quality standards and, as appropriate, modifying and adopting standards. Any waterbody segment with water quality standards that do not include the goal uses specified in Clean Water Act § 101(a)(2) shall be re-examined every three years to determine if any new information has become available. If such new information indicates the Clean Water Act goal uses are attainable, the Department shall revise the water quality standards accordingly. Public hearings shall be held in accordance with tribal law and EPA regulations. Any proposed water quality standards revisions and supporting analyses shall be made available to the public prior to the hearing. Any revisions to these water quality standards shall be consistent with EPA requirements found at 40 CFR § 131.6.